

**ORWBG Focus Group
Documentation of the CAB's
Disagreement with the SRS Planned Interim Action
For Remediation of Releases from the ORWBG**

CAB Recommendation #106, issued in November of 1999, requested SRS and the Regulators to develop a "common sense approach" to remediating the south-west plume from the Old Radioactive Waste Burial Ground (ORWBG). The recommendation was associated with the proposed interim action of constructing a sheet pile dam to collect the seepage effluent from the ORWBG and pump/irrigate nearby pine trees to force the tritium from the liquid effluent to an atmospheric release. (The background of this recommendation is contained in the recommendation and is not reproduced here.)

The CAB requested SRS and its regulators to meet with the public Focus Group to describe the planned program, its expected effectiveness in reducing adverse health effects caused by this effluent along with the costs of the program and benefits associated. The third portion of the recommendation was to compare costs and benefits now and at the end of institutional control.

At meetings held on March 7, 2000 with the ER Committee and on March 15, 2000 with the ORWBG Focus Group, SRS described the agreements between SRS and SCDHEC to construct a collection dam with an expandable water catch system. The collected water was to be used to water pine trees. Tritium will be removed from ground water seepage and released to the atmosphere through transpiration. The first phase was to collect and remove 25% of the tritium from the groundwater reaching Four-Mile Branch. Moving from 25% to the RCRA goal of 70% would not be undertaken until the initial phase of the interim action was evaluated. The March 7 meeting left many questions on the impacts of this approach.

The Focus Group and SRS worked to resolve the questions raised at the March 7 meeting. A June 29, 2000 report "Dose Calculations Supporting Irrigation with Tritiated Water" (Ref. 1) was reviewed with the Focus Group and the Focus Group found the analysis to be reasonable. The results of this report are summarized on the following table. The analysis evaluated the radiological dose commitment to onsite workers and other onsite population groups, off-site maximum exposed individual (MEI), and off-site population from release of 3,000 Ci of tritium to the stream or to the atmosphere. The analysis used proven modeling techniques similar to that used in the SRS Environmental Report. The results indicate that the population dose commitment is quite low (0.5 person-rem) and essentially the same for either pathway. Moving the tritium to an atmospheric release near the ORWBG creates a new exposure pathway to the SRS population. The SRS population will get 40% of the total dose commitment. This SRS population is small when compared with the population using the Savannah River water as a drinking water source. (Reference 1 is given in this report as Attachment 1.)

**Summary of Consequences of
Releasing 3,000 Ci of Tritium
From the ORWBG**

Receptor	Tritium to Water	Tritium to Atmosphere
Onsite Worker	NA	0,063 mrem
Onsite Population	NA	0.2 person-rem
Offsite MEI	0.015 mrem	0.0067 mrem
Offsite Population	0.51 person-rem	0.3 person-rem
Total Population	0.51 person-rem	0.50 person-rem

The Purpose and Need for Action statements given in the Environmental Assessment (EA) and the Finding of No Significant Impact (FONSI) for this action (References 2 and 3 respectively) are to minimize “the adverse effects of man-made contamination on human health and the environment while a more permanent action is planned and implemented”. The EA doesn’t examine the health consequences of the tritium released to the atmosphere and therefore the EA and FONSI are incomplete. In addition, the above table and Reference 1 shows there is no reduction in health effects from these actions so the goal to minimize human health consequences stated in the EA and FONSI no longer apply.

In parallel to these actions, the CAB had hired Education, Research and Development Association of Georgia Universities (ERDA) to perform an Independent Scientific Peer Review of the health impacts from the water seeping from the ORWBG. The ISPR final report (Ref. 4) draws the following conclusion: “Tritium is the major contributor to the health risk from ORWBG”. The analysis shows that the tritium concentration in the seepage from the ORWBG exceeds the drinking water standard. The ISPR analysis further concludes that because the seep line is within the government-controlled access area and since in 5-10 years the tritium concentration at the seep line is expected to decline to a level below the drinking water standard, “no corrective action of any kind to remediate the tritium concentration in FMB is recommended”. (Reference 4 is given in this report as Attachment 2.)

SRS has informed the Focus Group that implementation of the remedial interim action is beginning. The sheet pile dam had been completed and the spray irrigation equipment is being installed and should be completed by the end of October 2000. Seepage water is currently being released through a drain valve in the dam. Plans are to close the drain valve in early October and irrigation will begin as soon as the dam fills.

Because SRS and SCDHEC have agreed to perform this action to meet drinking water standards and the actions have begun despite stakeholders concerns that conclude that the action is not warranted, the Focus Group briefed the ER Committee on these issues on July 24, 2000. The Focus Group recommended that Recommendation #106 be closed and that the CAB and SRS agree to disagree that this action is needed, necessary, or cost

effective. The ER Committee agreed with the closure recommendation and the ER Committee meeting minutes lists the following three stipulations:

1. The action is neither necessary or cost effective
2. The Focus Group requests that periodic updates on the progress of the remediation, and
3. The Focus Group will prepare a letter documenting their disagreement with the planned action, and include it in the historical CAB Recommendation file.

The ER Committee briefed the CAB on these issues on July 25 and the CAB accepted the ER Committee recommendation to close CAB Recommendation #106 with the agreement to disagree on the need for the action. As part of closing Recommendation #106, the CAB requested the Focus Group to prepare a letter documenting the disagreement with this action. This letter serves that purpose.

The Focus Group concludes that its work on this aspect of the ORWBG is concluded and will no longer pursue it other than requesting and receiving periodic briefings on the effectiveness of this remediation action.

References:

1. "Dose Calculations Supporting Irrigation with Tritiated Water", by A. A. Simpkins and P. L. Lee, WSRC Report Number SRT-EST-2000-214, Dated June 29, 2000.
2. "Environmental Assessment for the Interim Measures for the Mixed Waste Management Facility Groundwater at the Burial Ground Complex", Report Number DOE/EA-1302, Dated December 1999.
3. "Finding of No Significant Impact and Floodplain Statement of Findings for the Interim Measures for the Mixed Waste Management Facilities Groundwater at the Burial Ground Complex", approved December 8, 1999 by Mr. Greg Rudy, DOE-SR Manager.
4. "Final Report to Citizens Advisory Board Concerning Corrective Measures to Remediate the Old Radioactive Waste Burial Ground", by Independent Scientific Peer Review Team (Team Members Doctors John A. Auxier, Randall Charbeneau, Nolan E. Hertel, Ratib A. Karem, Michael T. Ryan, and Ward Wicker), Task Order No. GA0050, dated August 2000 and Modified 10-10-00.